



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/786,735

02/25/2004

Parag L. Hegde

K-2126

2746

7590

09/25/2006

John J. Prizzi
Kennametal Inc.
P. O. Box 231
Latrobe, PA 15650

EXAMINER

HOWELL, DANIEL W

ART UNIT

PAPER NUMBER

3722

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/786,735	Applicant(s) HEGDE ET AL.	
	Examiner Daniel W. Howell	Art Unit 3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6-21-04</u> . | 6) <input type="checkbox"/> Other: ____ |

Art Unit: 3722

1. The use of the trademark FIX-PERFECT® has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the range of speeds set forth in claims 2 and 8 do not have basis as such in the specification. It is noted that tables I and II set forth portions of these ranges, but the values as set forth in claims 2, 8, 11, and 17 are not present in the specification.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 8-12, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Dahl et al 2002/0076286 (which subsequently issued as US patent 6896452). Paragraphs [0003] and [0007] discuss an engine block of aluminum and having liners of cast iron, and the method of milling this workpiece with a silicon nitride based cutting tool insert at a speed of 1000-3000 m/min. Conversion to English units falls within the ranges of present claims 2, 8, 11, and 17. Paragraph [0028] discusses the ability to turn off coolant, which still leaves the option of using coolant.

Art Unit: 3722

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahl et al '286 in view of the article "Opportunities for Advanced Ceramics to Meet the Needs of the Industries of the Future." Dahl et al does not explicitly set forth the composition of claims 4 and 13. Page 2-5 of the "Opportunities" article discusses the advantages using of Si(3)N(4) for face milling on cast iron, by noting its resistance to temperature, high cutting speeds, and increased tool life, also providing a lower cost. It is considered to have embodied the insert of Dahl et al of Si(3)N(4) as taught by the "Opportunites" article in view of its high cutting speed, increased tool life, lower cost, and resistance to temperature.

7. Claims 5-7 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahl et al '286 in view of Yeckley (6693054). Dahl et al does not explicitly set forth the compositions of claims 5-7 and 14-16. Lines 18-31 of column 4 of Yeckley discuss a cutting tool for machining cast iron having alpha prime sialon and beta prime sialon phases. It is considered to have been obvious to have embodied the tool of Dahl et al as a sialon composition as taught by Yeckley in order to provide a tool having improved properties and cutting performance.

8. Claims 5-7 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahl et al '286 in view of Mehrotra et al (4880755). Dahl et al does not explicitly set forth the

Art Unit: 3722

compositions of claims 5-7 and 14-16. Column 1, lines 19-38, of Mehrotra et al discuss a cutting tool insert having alpha prime sialon and beta prime sialon phases, such that the insert has increased toughness, high hot hardness and elevated temperature compressive strength. It is considered to have been obvious to have embodied the tool of Dahl et al as a sialon composition as taught by Mehrotra et al in order to provide a tool having improved toughness and hardness.

9. Any inquiry concerning the content of this communication from the examiner should be directed to Daniel Howell, whose telephone number is 571-272-4478. The examiner's office hours are typically about 10 am until 6:30 pm, Monday through Friday. The examiner's supervisor, Monica Carter, may be reached at 571-272-4475.

In order to reduce pendency and avoid potential delays, Group 3720 is encouraging FAXing of responses to Office actions directly into the Group at FAX number to 571-273-8300. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Daniel Howell of Art Unit 3722 at the top of your cover sheet.



Daniel W. Howell
Primary Examiner
Art Unit 3722